iSync HD & iSync Pro

Digital Video Processor and Video/Audio Switcher

USER MANUAL

iSync HD™

iSync Pro™

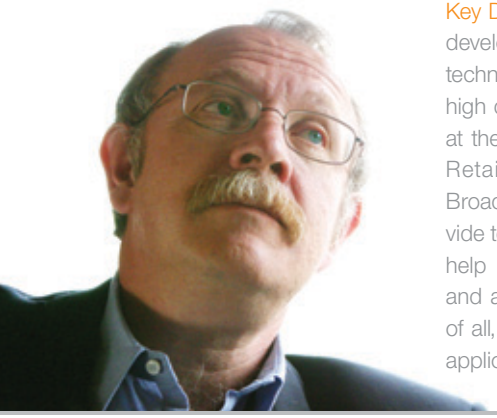
Operating Instructions

iSync HD and iSync Pro by **Key Digital®** are full-featured digital video processors and video switchers in one compact package, providing faithful image rendition for even the most demanding displays employing scanning technologies up to and including 1080p. The **iSync HD [Pro]** is equipped with varied digital and analog video input/output formats made available on a full array of connectors and capable of driving all popular HD and SD resolutions at both 60 Hz and 50 Hz. Additionally, the **iSync HD [Pro]** enables the interfacing of various video sources to your display, and audio sources to an existing surround sound processor. The feature-rich video processor delivers stunning images and offers many conveniences and user-adjustments.

HDTV CERTIFIED 480p · 720p · 1080i · 1080p | RS-232 | Control4 | CRESTRON | ELAN HOME SYSTEMS™ | AMX

Key digital®

The Experts in Digital Video Technology and Solutions®



Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high quality video imaging is important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers, System Integrators, Broadcasters, Manufacturers, and Consumers. We provide total video system solutions because we know and help drive the technology, the industry, the business, and all the latest up-and-coming standards. But most of all, we know exactly what you need for your unique application - the right solution.

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Key digital®

The Experts in Digital Video Technology and Solutions®

Safety Instructions – Please be sure to follow these instructions for safe operation of your unit

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

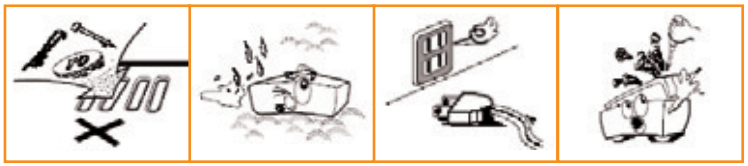
WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Do not let foreign objects in the set

Keep the set free from water, moisture and dust

Unplug the power cord when not using the set for long periods of time

Never disassemble or modify the set in any way

Handle the power cord carefully. Hold the plug when unplugging the cord

Do not let insecticides, benzene, and thinner come in contact with the set

For sets with ventilation holes: Do not obstruct the ventilation holes

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Key Features

iSync HD [Pro] is a full featured digital video processor and video switcher capable of driving displays with all popular HD and SD resolutions at 60 Hz and 50 Hz up to and including 1080p. With the iSync HD [Pro] it is possible to connect all of your video sources to your display, and your audio sources to your audio surround processor. For each input, you can control a broad range of functions, from Brightness and Contrast, to Size, Position and even Zoom/Aspect Ratio adjustments. Test patterns built into the iSync HD [Pro] are conveniently provided to help you set up your video system.

Connect and Select any Digital or Analog Video Input

- HDMI Digital Video inputs
  - ⇛ 2 HDMI: plug and play and also supports audio
  - ⇛ Supports HDCP Copy Protection
  - ⇛ To support DVI-D Video, use Key Digital® HDMI to DVI-D adapters and cables
- Analog Video (individual analog video connectors for each of the following interfaces):
  - ⇛ 3 Component: YPbPr
  - ⇛ 2 S-Video: NTSC, PAL
  - ⇛ 3 Composite Video: NTSC, PAL

Audio Inputs and Outputs Supported

- 4 Digital PCM (Coax)
- 2 Toslink (Optical)
- 4 Channel Stereo Analog

Processes and Scales any HDMI or Analog Video Input to Match the Native Resolution of Chosen Display

- Uses renowned Key Digital® Clear Matrix Pro® and SDS (Super Digital Scaling) Technology
- Supports popular source formats and resolutions
- Sizes most popular video source formats to precisely match the native resolution of your display including 1080p
- Built in test patterns

Easy to control and operate:

- On-board LCD display
- Store your custom settings for each of the HDMI and Analog Video inputs.
- Easy to operate IR remote control and RS-232C
- User-friendly front panel controls
- RS-232C
- Front and rear-panel IR sensor
- Wired IR serial connector
- Firmware upgradeable

Key Digital® Technology

The Technology drives all Key Digital® products. The cutting-edge technologies engineered into your iSync HD [Pro] digital video processor and video/audio switcher include:

Clear Matrix Pro®

SDS [Super Digital Scaling]

DPE [Digital picture enhancement]

DEE [Digital Edge Enhancement]

HOVO™ [horizontal offset - vertical offset]

DVIC™ [Digital Video Internal Clock Exchange]

DVPC™ [Digital Video Phase Controller]

LHBC™ [Liner High Bandwidth Circuit]

Multi-Layer Board Technology™

Surface Mount Technology™

About the iSync HD [Pro]

Thank you for purchasing the Key Digital® iSync HD [or iSync Pro], the latest and most sophisticated achievement in digital video processing and video switching from Key Digital. The iSync HD [Pro] is a full-featured digital video processor and switcher able to provide stunning images to the latest displays, up to and including 1080p. It is flexible and easy to use, and can drive displays with all popular HD and SD resolutions, at 60 Hz or 50 Hz. This deceptively compact unit has the performance, features and quality synonymous with Key Digital®, providing indispensable flexibility and ease of operation to any integral video/audio system application.

The iSync HD [Pro] is easily configured to interface most any Video and Audio source(s) with virtually any desired output Display and Audio medium, at the mere touch of a button. Using either the on-board simple and intuitive pushbutton navigation array with the accompanying LCD display, or the handy IR Remote Control provided with your unit with its convenient Hot-Key select feature, you'll appreciate the ease of matching and scaling progressive-scan and interlaced video source material to the native resolution of your display. Additionally, like all Key Digital® video processors, iSync HD [Pro] is equipped with RS232C, allowing complete external operational control through Crestron, Elan, AMX, Control 4 and virtually almost any other control system. The RS232C port also allows for easy software upgrades when used in conjunction with the program switch set in the proper position.

Versatile video and audio Inputs and Outputs

The iSync HD [Pro] supports a wide array of video inputs, providing flexibility as well as the means for all digital interfaces with your display. The iSync HD [Pro] is equipped with two (2) HDMI Digital Video inputs (HDMI is plug-and-play and supports audio), separately selectable and customizable with HDCP copy protection support. For Analog Video there are individual analog video inputs that are also customizable. These include:

- Component Video (YPbPr)
- S-Video (NTSC and PAL)
- Composite Video (CV) (NTSC and PAL)

Your iSync HD [Pro] also supports analog left and right stereo pair inputs and outputs and SPDIF digital audio inputs and outputs.

Using world-renowned Key Digital® Clear Matrix Pro technology, the iSync HD [Pro] can scale any selected video to match the native resolution of your display. It provides superior quality scaling of all popular HDTV and SDTV input formats (480i, 480p, 576i, 576p, 720i, 720p, 1080i, 1080p) and analog NTSC and PAL video formats, all at 60 Hz or 50 Hz. The various input interfaces and format options built into the iSync HD [Pro] provide flexibility and pristine deinterlacing and scaling to the native resolution of your display of choice.

Input and Output Features

A list of all of the interfaces to your iSync HD [Pro] and their specifications are conveniently provided in the following able.

	Quantity x Type	Connector	Resolutions Supported
Video Inputs	2 x HDMI	HDMI	1920 x 1080i at 60/50 Hz 1280 x 720p at 60/50 Hz 720 x 480p at 60 Hz 720 x 576p at 50 Hz
	3 x Component	RCA Jacks	
	3 x Composite	RCA Jacks	720 x 480i at 60 Hz 720 x 576i at 50 Hz
	2 x S-Video	S-Video	720 x 480i at 60 Hz 720 x 576i at 50 Hz
Video Outputs	1 x HDMI	HDMI	1920 x 1080p at 60/50 Hz 1920 x 1080i at 60/50 Hz 1280 x 720p at 60/50 Hz 720 x 480p at 60 Hz 720 x 576p at 50 Hz
	1 x Component	RCA Jack	
	H/V Sync	RCA Jacks	720 x 480i at 60 Hz 720 x 576i at 50 Hz Positive or Negative Sync
Audio Inputs	4 x LR Analog Audio	RCA Jacks	Two Channel Stereo
	4 x Coaxial Audio	RCA Jacks	SPDIF (IE60958)
	2 x Optical Audio	Toslink	SPDIF (IE60958)
Audio Outputs	1 x LR Analog Audio	RCA Jacks	Two Channel Stereo
	1 x Coaxial Audio	RCA Jacks	SPDIF (IE60958)
	1 x Optical Audio	Toslink	SPDIF (IE60958)
Service Port	1 x RS232C	DSUB-9 Female	▪ Home Theater Control System ▪ Debugging and Firmware Upgrading
Front Buttons	8 Buttons		Power/Menu/Up/Down/Left/ Right input selects
Front and Rear IR sensor	2 x IR Sensors		
Remote IR	1 x 3.5” Phono Jack		
Front LCD	2 x 10 Character Type		
Power	1 x AC-DC Adapter		

Getting Started

Follow these instructions to quickly connect and configure your iSync HD [Pro].

Open the package and you will find the following contents

1. One (1) iSync HD (black) or Pro (silver) Digital Video Processor - Video/Audio Switcher Unit
2. External 6-Volt power supply
3. IR Remote Control with batteries included
4. One (1) Alignment Tool*
5. This Operating Instruction Manual
6. Quick Reference Guide
7. Warranty Card

*Adjustment tool used to set the brightness of the LCD Display on the iSync HD [Pro]

Once you have unpacked your new iSync HD [Pro] and situated it in its final location you are ready to begin

You may have source devices with HDMI and/or other various analog sources that you may wish to ultimately connect to your display and audio system. The iSync HD [Pro] comes equipped with a rich array of video and audio inputs, allowing both flexibility and the means for an all-digital interface to your existing equipment.

Typical iSync HD [Pro] interface configurations for the input (source) devices and the output (sink) display and/or audio components of your home theater set up are illustrated in the following Application Example.

CAUTION: Always test first, before permanently installing the iSync HD

Use extreme care when:

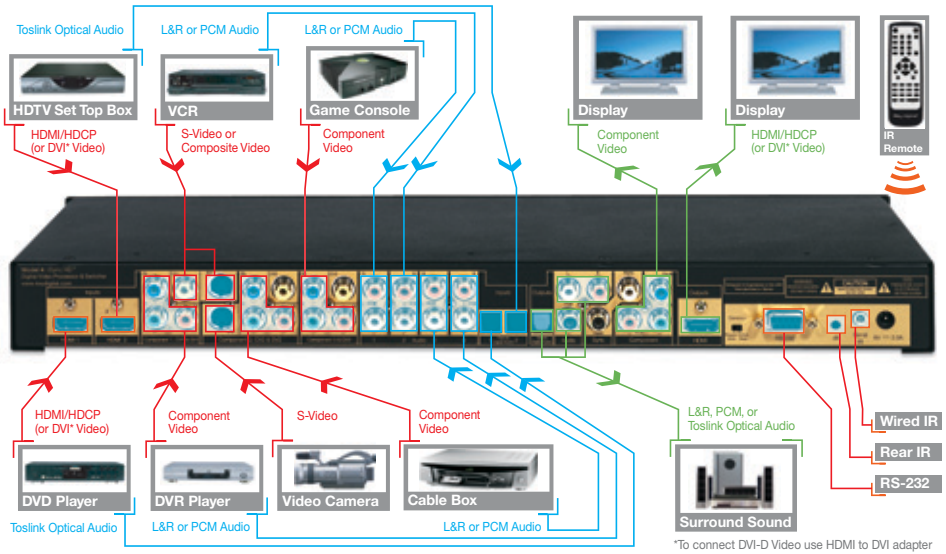
- Interfacing with HDMI and/or DVI-D: always test before permanently installing cables.
- Adapting DVI-D to HDMI and HDMI to DVI-D: always use an adapter at the source and test before permanently installing cables.

Restrict your cable lengths as follows:

- 50-foot maximum HDMI cables driven from a DVI-D source, or less for 1080p video resolution.
- 30-foot maximum DVI-D cables driven from an HDMI source.

Be sure your iSync HD [Pro] is turned off and unplugged from its power source before attempting to connect your equipment to the Inputs and Outputs of this unit

Typical Application of your iSync HD [Pro] in a Home Theater



* To connect DVI-D video sources to the iSync HD [Pro] inputs, use Key Digital DVI-D to HDMI adapters at the output of your source.

** To connect displays with DVI-D inputs to the iSync outputs, use Key Digital HDMI to DVI-D adapters at the output of the iSync HD [Pro].

Connect your equipment to the Inputs and Outputs of your iSync HD [Pro]

a. Connect your Digital Video Inputs:

Be sure your iSync HD [Pro] is turned off and unplugged from its power source before attempting to connect your equipment to the inputs of this unit. There are two (2) separately selectable and customizable HDMI Digital Video plug-and-play inputs. HDMI supports audio and HDCP copy protection. Note the 2 x HDMI Type A 19-pin connectors on the left side of the iSync HD [Pro] rear panel.

For proper operation, do not connect the external 6 Volt DC supply (provided) to the back of the iSync Digital Video Processor and Video/Audio Switcher until:

⇒ All of your Video and Audio connections to the iSync are complete (as described in the Operating Instruction Manual included with your unit), and

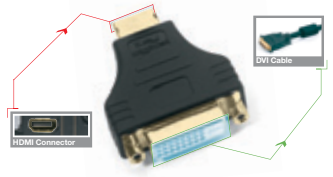
⇒ You have set the rear-panel Mode switch to the "Normal" mode.

If the equipment you would like to connect to your iSync HD [Pro] has only DVI-D connectors, then you should use Key Digital® HDMI / DVI-D adapters to connect your equipment to the iSync HD [Pro]. Note that while HDMI supports both Video and Audio over an HDMI cable, DVI-D supports Video only and will therefore require that you connect any audio source separately to the iSync HD [Pro].

DVI-D Sources

If your source does not support HDMI but has a DVI-D output, you will need a DVI-D to HDMI Adapter at the output of your source.

The Key Digital® DVI to HDMI Adapter is the perfect choice.



DVI-D Displays

If your display does not support HDMI but has a DVI-D input, you will need an HDMI to DVI-D Adapter at the output of the iSync HD [Pro].

The Key Digital® DVI to HDMI Adapter is the perfect choice.

Connecting iSync HD [Pro] (continued)

b. Connect your Analog Video Inputs

There are individual analog video inputs that are customizable for each of the following interfaces:

- Component Video (YPbPr): 3 x color coded RCA female connectors
- S-Video: 2 x S-Video connectors
- Composite Video (CV): 3 x RCA female connectors

c. Connect your Digital Video Outputs

There is one (1) separately customizable HDMI Digital Video plug-and-play output. HDMI supports audio and HDCP copy protection. Note the 1 x HDMI Type A 19-pin connector on the right side of the iSync HD [Pro] rear panel.

If the equipment you would like to connect to your iSync HD [Pro] has only DVI-D connectors, then you should use Key Digital® HDMI / DVI-D adapters to connect your equipment to the iSync HD [Pro]. Note that while HDMI supports both Video and Audio over an HDMI cable, DVI-D supports Video only and will therefore require that you connect any audio source separately to the iSync HD [Pro].

d. Connect your Analog Video Outputs

There are individual analog video outputs that are customizable for each of the following interfaces:

- Component Video (YPbPr): 1 x color coded RCA female connectors
- H/V Sync [composite]: RCA female connector

e. Connect your Audio Inputs and Outputs:

The iSync HD [Pro] also supports analog audio left and right audio pair inputs and output, and SPDIF digital audio inputs and outputs.

- Analog Stereo Left & Right Audio Input: 4 x L/R RCA female connectors
- Analog Stereo Left & Right Audio Output: 1 x L/R RCA female connector
- SPDIF Digital Coaxial Audio Input: 4 x RCA female connectors
- SPDIF Digital Coaxial Audio Output: 1 x RCA female connector
- SPDIF Optical Audio Input: 2 x Toslink
- SPDIF Optical Audio Output: 1 x Toslink

f. Connect your RS-232 Control:

In addition to the included IR Remote Control for operation of your iSync HD [Pro], you can also control operation of your unit via the RS-232 port available on the connector array on the back panel of the unit.

Connecting iSync HD [Pro] (continued)

g. Set the Mode switch to Normal and apply power to your unit:

Once you have made all the A/V connections to your iSync HD [PRO], set the Mode switch located on the rear panel of the unit is to the “Normal” position.

With all equipment connected to your iSync HD [PRO]and the Mode switch in the “Normal” position, you may now plug in the external 6 VDC @ 6 Amp Power Supply (provided with your unit) to the jack on the back of the unit and connect the power cord into an appropriately rated wall outlet or power strip.

You may now turn your iSync HD [PRO] unit ON using the front-panel pushbutton, the IR Remote Control, or RS-232.

h. Set the brightness level of the iSync HD [PRO] LCD display:

If you feel it is necessary at this time to adjust the brightness of the LCD panel display, this can be easily done using the adjustment tool (screwdriver) provided. The adjustment is made via the adjustment screw opening located on the right side panel of the unit when you are facing the front of the unit.

Simply insert the adjustment tool into the opening located on the right side panel of the iSync HD [PRO] unit, and be sure the tool is in the correct position. Then, adjust the brightness by turning the tool clockwise or counterclockwise until you are pleased with the brightness level of the LCD display on the front of the iSync unit.

The brightness level of the front-panel LCD can be adjusted at any time, but it is most convenient to do so before you mount or permanently install your iSync HD [PRO] unit.

Basic Operation of the iSync HD [Pro]

Ensure that the program Mode switch, located at the bottom right of the iSync HD [Pro], is set to the "Normal" mode, unless performing a firmware upgrade [to perform a Firmware Upgrade, turn to the Firmware Upgrade Procedure section].

Using the on-board push-button controls you can now familiarize yourself with navigating the Menu. As illustrated in the following table, the iSync HD [Pro] MENU, and its associated selections and parameter adjustment windows, is easily accessed by using the pushbutton keys located directly right of the LCD display on the face of the unit.

Navigation Procedure

The front panel of the iSync HD [Pro] is equipped with user Navigation Keys listed in the table below.

No.	Key Name	Description
1	Power	Toggle between two states: Power on, Power off
2	▲	Scroll Ascending
3	◄	Scroll Left
4	►	Scroll Right
5	▼	Scroll Descending
6	SELECT	Setup or Selection
7	MENU	Toggle between two states: Menu entering, Menu exiting.
8	INPUT SELECT	Select one input video among all input video in order.

Note: Function selected is voided when no key is depressed for more than 30 seconds

Please refer to the Menu Tree table provided in this Manual when accessing the iSync HD [Pro] parameter windows.

Pressing the **MENU** button once will display, on the on-board LCD screen, the current status of the Video formats present at the input and output of the iSync HD [Pro].

Pressing the **MENU** button a second time will display the last heading accessed on the MENU tree and prompt the user, by means of left and right pointing arrows bracketing that heading, to access the sub-menu.

Pressing either the **LEFT** or **RIGHT** button will now access items listed in the SUB-MENU. Successively pressing either the UP or DOWN button will access, in a continuous loop, all the headings tabulated in the SUB-MENU column.

Now that you have become familiar with the basic navigation procedure, you are prepared to access and change the actual settings of parameters associated with specific headings in the SUB-MENU. This part of the procedure is accomplished by using the LEFT and RIGHT buttons once the desired SUB-MENU heading and its current setting is displayed on the LCD screen. The user is again prompted to adjust this setting by the left and right pointing arrows bracketing the chosen setting currently displayed. Pressing either the LEFT or RIGHT button will now alter the setting for the chosen parameter. As before, the LEFT and RIGHT buttons will scroll through the content of an individual sub-menu associated with a particular parameter, in a continuous loop, until such time that the user either exits the system by pressing the MENU button or resumes scrolling through the SUB-MENU using the UP and DOWN buttons.

Functions

1. Understand the full capabilities of your iSync HD [Pro] Video Processor and Switcher unit.

Your iSync HD [Pro] unit is feature-rich, and performs much more than "2 x 1" switching of HDMI signals A/V and corresponding analog, PCM, and/or Toslink optical Audio. Your iSync HD [Pro] unit has a built-in, high-quality scaler and video processor. Before we start to operate and control these functions, let's look at the gamut of features provided in your unit:

Video Processing Functions Provided

- Key Digital® DPE™ (digital picture enhancement) and DEE™ (digital edge enhancement)
- Sharpness, Brightness, Contrast
- Saturation, Hue
- Horizontal & Vertical Size, Position, Input Offset
- Zoom (Output Aspect Ratio processing), including options to prevent monitor burn-in for Letterbox or Pillarbox images:
  - ⇒ Full
  - ⇒ Letterbox, Pillarbox
  - ⇒ Horizontal Zoom, Vertical Zoom, Horizontal and Vertical Zoom
- Built-in Test patterns help you set-up your video system (all patterns available through the front-panel controls, as well as RS-232)
  - ⇒ Horizontal Ramp
  - ⇒ Color Bars
  - ⇒ Cross Hatch
  - ⇒ Gray Scale
  - ⇒ White Screen
  - ⇒ Wide Horizontal Ramp
  - ⇒ Wide Vertical Ramp

When instructed, you can reset the setting to Factory Default using the "Select" pushbutton on the front panel.

Zoom - Aspect Ratio Adjustments.

Your iSync HD [Pro] Switcher can perform output Aspect Ratio processing, including options to prevent monitor burn-in for Letterbox or Pillarbox images

- Full
- Letterbox, Pillarbox
- Horizontal Zoom, Vertical Zoom, Horizontal and Vertical Zoom

i. H Zoom (Horizontal Zoom): This "H Zoom" feature is particularly useful for some Plasma owners, who may want to stretch the image to fill the screen and avoid the nasty burn-in. If the input signal is a Pillarbox, Horizontal Zoom extends (distorts) the image from left to right to fill the screen. For example, when a 4:3 movie is up-converted to HDTV in a studio, it may be simply released in the Pillarbox format, with black bars to the left and right of the image in a 16:9 window.

ii. V Zoom (Vertical Zoom): This "V Zoom" feature is particularly useful for some Plasma owners, who may want to stretch the image to fill the screen and avoid the nasty burn-in. If the input signal is a Letterbox, Vertical Zoom extends (distorts) the image from top to bottom to fill the screen. For example, it is very common for a widescreen DVD movie to be presented in Letterbox, because the original movie may be captured in 2.35:1 Cinemascope or some other Aspect Ratio that creates a small letterbox in a 16:9 window.

iii. HV Zoom: This mode simultaneously stretches the image uniformly in both the Horizontal and Vertical directions, using the same ratios as in H Zoom and V Zoom. This Zoom mode may be preferred over the H- or V-Zoom, both of which geometrically distort the image. Because the image is "Zoomed," there will be a slight loss (cropping) of the image at the top and bottom for Pillarbox sources, and at the left and right for Letterbox sources.

IR Remote Control

All the functions of the iSync HD [Pro] can be remotely accessed using the IR remote control supplied. The remote control unit may not operate if there are objects placed between it and the display. When operating the remote control unit, it must be pointed directly at the iSync HD [Pro]. The IR sensors are located at the bottom right segment of the front and rear panels of the iSync HD [Pro]. Periodically replace batteries, as the operational distance of the Remote Control is affected by a weakened power source.

In addition to the front-panel IR sensor, a convenient rear-panel IR sensor is provided to the right of the RS-232 port connector. This IR sensor does not have a lens in its path, and is intended for short-range use, such as if you are working on the rear panel from behind the unit, or as a handy spot for your IR extender. In addition, a wired (serial) IR connector is available to the right of the rear-panel IR sensor.

The hand held IR Remote Control provides the user with a quick, easy to operate navigation device that permits direct selection of inputs and adjustment of the most common parameters, such as brightness, contrast, hue…etc., through the use of "Hot Buttons", without having to access the extensive menu of the iSync HD [Pro]. As illustrated in the preceding diagram of the IR Remote Control, these convenient Keys are clearly marked and make the configuring your new Video processor simple and efficient. Additionally included in your purchase package is a user **Quick Reference Guide** designed to make the basic start up of the iSync HD [Pro] a trouble free and pleasant endeavor for both the experienced and casual user alike.

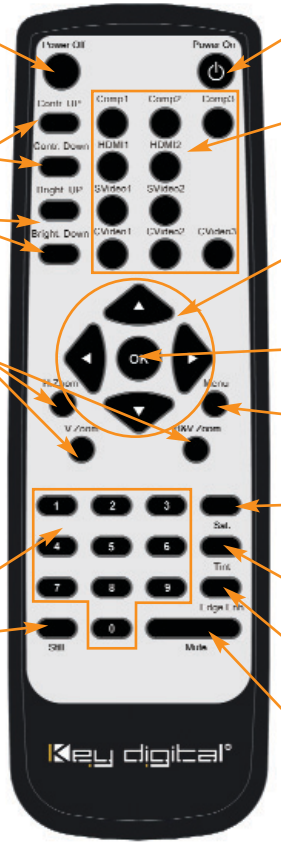
iSync HD [Pro] "Hot Buttons"

Use the '"Hot Buttons" on your IR Remote for instant action without the need for the LCD visual cue:

- **Power ON** and **Power OFF**
- Input (source) selection Hot Buttons:
  - ⇛ HDMI: HDMI 1, HDMI 2
  - ⇛ YPbPr: COMPONENT 1, COMPONENT 2, COMPONENT 3
  - ⇛ Composite Video: VIDEO 1, VIDEO 2, VIDEO 3
  - ⇛ S-Video: S-VIDEO 1, S-VIDEO-2
- Video processing Hot Buttons:
  - ⇛ ASPECT (Aspect ratio and Zoom modes)
  - ⇛ BRIGHTNESS
  - ⇛ CONTRAST
  - ⇛ SATURATION
  - ⇛ TINT
  - ⇛ STILL (Freeze Frame)
  - ⇛ Mute (Audio On/Off)

The **MENU, OK, EXIT** and **NAVIGATION** buttons are used to remotely access and navigate the iSync HD [Pro] on-board Menu.

iSync HD [Pro] IR Remote Control Functions



Power: Turns unit OFF

Contrast: Higher/Lower

Brightness: Higher/Lower

Aspect Ratio Zoom Modes:
- H Zoom [toggles H Zoom, Pillarbox, Fullscreen]
- V Zoom [toggles V Zoom, Letterbox, Fullscreen]
- H&V Zoom [toggles H&V Zoom, Fullscreen]

Number Entry: 0 - 9

Still: Still [Freeze] output video

Power: Turns unit ON

Source [Input] Video Select:
- Component Video 1, 2, or 3
- HDMI1 or 2
- S-Video 1 or 2
- Composite Video [CVBS] 1, 2, or 3

Menu Navigation Buttons:
- Navigate Up, Down, Left, and Right and observe on the front-panel LCD of the iSync

OK: Enters your Menu selection

Menu: Brings up the Menu on the front-panel LCD of the iSync, for you to navigate with arrows on the remote

Color Saturation: use the Up and Down arrows to adjust

Color Tint [Hue]: use the Up and Down arrows to adjust

Edge Enhancement: use the Up and Down arrows to adjust

Mute: Audio On/Off

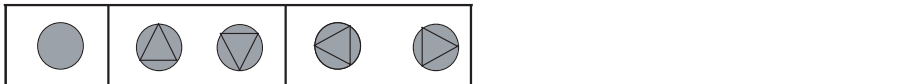
Control Menus

MENU **UP** **DOWN** **LEFT** **RIGHT**

Main Menu	Sub Menu	Value Range	RS-232 Command	Function Description
1. Input Video	1. HDMI1	(DEFAULT) / HDMI1	IV1	Select HDMI input1 (Default)
	2. HDMI2	HDMI2	IV2	Select HDMI input2
	3. Component #1	Component1	IV3	Select Component input1
	4. Component #2	Component2	IV4	Select Component input2
	5. Component #3	Component3	IV5	Select Component input3
	6. Composite #1	Composite1	IV6	Select Composite1
	7. Composite #2	Composite2	IV7	Select Composite2
	8. Composite #3	Composite3	IV8	Select Composite3
	9. S-Video #1	S-Video1	IV9	Select S-Video1
	10. S-Video #2	S-Video2	IVA	Select S-Video2
2. Picture	1. Contrast	(0) / -50 ~ 50	CTU / CTD / CTI [#]	Adjust the contrast of the picture
	2. Brightness	(0) / -50 ~ 50	BTU / BTD / BTI [#]	Adjust the brightness of the picture
	3. Saturation	(0) / -50 ~ 50	SAU / SAD / SAI [#]	Adjust the saturation of the picture
	4. Tint	(0) / -50 ~ 50	TTU / TTD / TTI [#]	Adjust the tint of the picture
	5. Sharpness	(0) / -50 ~ 50	SHU / SHD / SHI [#]	Adjust the sharpness o the picture
	6. Aspect	(DEFAULT) / Full Screen	AP1	Adjust Default full screen for normal display
		Letter Box	AP2	Adjust Letter box
		Pillar Box	AP3	Adjust Pillar box
		H-Zoom	AP4	Adjust Horizontal zoom in
		V-Zoom	AP5	Adjust Vertical zoom in
		H-V-Zoom	AP6	Adjust H/V zoom in
	7. PAL Film	(Off) / On / Off	PON / POF	Select PAL 2:2 film mode ON or OFF
	8. Picture Default	Yes / No		Select Default for all properties of the picture
3. Screen	1. Horizontal Position	(0) / -20 ~ 20	HPU / HPD / HPI [#]	Adjust Horizontal output position of the screen
	2. Vertical Position	(0) / -20 ~ 20	VPU / VPD / VPI [#]	Adjust Vertical output position of the screen
	3. Horizontal Size	(0) / -20 ~ 20	HZU / HZD / HZI [#]	Adjust Horizontal size of the screen
	4. Vertical Size	(0) / -20 ~ 20	VZU / VZD / VZI [#]	Adjust Vertical size of the screen

Control Menus (continued)

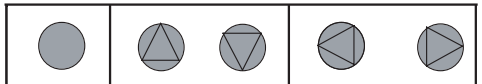
MENU UP DOWN LEFT RIGHT



Main Menu	Sub Menu	Value Range	RS-232 Command	Function Description
	5. Horizontal Offset	(0) / -20 ~ 20	HOU / HOD/ HOI [#]	Adjust Horizontal input offset of the screen
	6. Vertical Offset	(0) /-20 ~ 20	VOU / VOD/ VOI [#]	Adjust Vertical input offset of the screen
	7. Default	(None) / Yes/No		Select Default for all properties of the screen
				[...] In case of HDMI Inputs
4. A/V Association	1. HDMI1	(None) / [Audio Source]	AV1 [#]	Associate HDMI1with audio input # (0 ~ A)
	2. HDMI2	(None) / [Audio Source]	AV2 [#]	Associate HDMI2 with audio Input # (0 ~ A)
	3. Component1	(None) / [Audio Source]	AV3 [#]	Associate Component1 with audio input # (0 ~ A)
	4. Component2	(None) / [Audio Source]	AV4 [#]	Associate Component2 with audio input # (0 ~ A)
	5. Component3	(None) / [Audio Source]	AV4 [#]	Associate Component3 with audio input # (0 ~ A)
	6. Composite1	(None) / [Audio Source]	AV5 [#]	Associate Composite1 with audio input # (0 ~ A)
	7. Composite2	(None) / [Audio Source]	AV6 [#]	Associate Composite2 with audio input # (0 ~ A)
	8. Composite3	(None) / [Audio Source]	AV7 [#]	Associate Composite3 with audio input # (0 ~ A)
	9. S-Video1	(None) / [Audio Source]	AV8 [#]	Associate S-Video1 with audio input # (0 ~ A)
	10. S-Video2	(None) / [Audio Source]	AV9 [#]	Associate S-Video2 with audio input # (0 ~ A)
	11. Default	(None) / Yes/No		Setting up Default for all properties of the A/V association
5. Output Resolution	1. 1920X1080P(60 Hz/50 Hz)	N/A	OR1	Select 1920x1080p (60 Hz/50 Hz) output resolution
	2. 1920X1080I(60 Hz/50 Hz)	N/A	OR2	Select 1920x1080i (60 Hz/50 Hz) output resolution
	3. 1400X1050P(60 Hz/50 Hz)	N/A	OR3	Select 1400x1050p output resolution
	4. 1280X768P(60 Hz/50 Hz)	N/A	OR4	Select 1280x768p output resolution
	5. 1280X720P(60 Hz/50 Hz)	N/A	OR5	Select 1280x720p (60 Hz/50 Hz) output resolution
	6. 1366x768P(60 Hz)	N/A	OR6	Select 1366x768p output resolution
	7. 1920X540P(60 Hz)	N/A	OR7	Select 1920x540p output resolution
	8. 720X480P(60 Hz)	N/A	OR8	Select 720x480p output resolution (Default)
	9. 720X480I(60 Hz)	N/A	OR9	Set up 720x480i of output resolution
	10. 720X576P(50 Hz)	N/A	ORA	Select 720x576p output resolution
	11. 720X576I(50 Hz)	N/A	ORB	Select 720x576i output resolution
	12.1920X1080SP(24Hz)	N/A	ORC	Select 1920x1080Sp (24Hz) output resolution
	13. Default(no.2)	[720X480P(60 Hz)] / Yes/No		
6. Set Up	1. HDMI In. Color Space	YPbPr	IC1	Set up HDMI input color space by YPbPr
		RGB	IC2	Set up HDMI input color space by RGB
		(DEFAULT) / Auto	IC3	Set up HDMI input color space by auto [default]
	2. HDMI Out. Color Space	YCbCr	OC1	Set up HDMI output color space by YPbPr
		RGB	OC2	Set up HDMI output color space by RGB
		(DEFAULT) / Auto	OC3	Set up HDMI output color space by auto [default]
	3. HDMI Out. Setup	(DEFAULT) / HDMI	OS1	Set HDMI output by HDMI mode

Control Menus

MENU UP DOWN LEFT RIGHT



Main Menu	Sub Menu	Value Range	RS-232 Command	Function Description
		/ DVI	OS2	Set HDMI output by DVI mode
	4. Analog Out. Setup	(DEFAULT) / YCbCr	AS1	Set analog output by YCbCr with embedded sync.
		/ RGB HV	AS2	Set analog output by RGB with HV sync.
7. Test Pattern	1. Input Pattern	(DEFAULT) / Normal Display	IP1	Normal display (Default)
		Horizontal Ramp	IP2	Display horizontal ramp window
		Color Bars	IP3	Display color bar window
	2. Output Pattern	(DEFAULT) / Normal Display	OP1	Normal display (Default)
		Horizontal Ramp	OP2	Display horizontal ramp window
		Color Bars	OP3	Display color bar window
		Cross Hatch	OP3	Display cross hatch window
		Gray Scale	OP4	Display gray scale window
		White Window	OP5	Display white window
		Wide Horizontal Ramp	OP6	Display vertical ramp window
		Wide Vertical Ramp	OP7	
8. Factory Default		(None) / Yes/No		Factory default of iSync HD™ [PRO™]
9. Hot Keys	1. Still	Off	STO / STF	STO: Still ON, STF: Still Off
	2. Mute	Off	MUO / MUF	MUO: Mute On, MUF : Mute Off
10. Hidden	EDID Rewriting	None	EXE	EDID Rewriting to Serial EEPROM

A/V Control

Contributing to the great flexibility of the iSync HD [Pro] is its ability to associate virtually any single audio input source to any other single video input source. This is implemented by using the same navigating procedure described earlier in this Manual.

For each input, first select the video format carried by your HDMI signal: either RGB or Component (YPbPr). Each of the four (2) Inputs HDMI Inputs has a separate memory, so you can save your preferred settings per input device. You can then select and store the following preferred parameters for:

- Brightness
- Sharpness
- Contrast
- H-Size
- V-Size
- Saturation
- Hue
- H-Input Offset
- V-Input Offset
- H-Position
- V-Position
- Input format (RGB or YPbPr)
- Zoom / Aspect Ratio

Some of these parameters can be accessed directly using the hand-held IR Remote Control. These “Hot Buttons” are intended as a time saving solution allowing direct manipulation of:

- Video input selection
- Audio input association to chosen video input
- Freeze frame
- Resolution
- Aspect ratio
- Brightness
- Contrast
- Saturation
- Tint (Hue)

A/V Control

For Example, Stereo Input 2 can be associated with Component Input #2; Coax Input 1 can be associated with HDMI Input 2. Use the table below as a guide to map your associations.

AUDIO INPUT	AUDIO INPUT
1. Stereo #1	1. HDMI1
2. Stereo #2	2. HDMI2
3. Stereo #3	3. Component #1
4. Stereo #4	4. Component #2
5. Coaxial #1	5. Component #3
6. Coaxial #2	6. Composite #1
7. Coaxial #3	7. Composite #2
8. Coaxial #4	8. Composite #3
9. Optical #1	9. S-Video #1
10. Optical #2	10. S-Video #2
	11. None

iSync HD Rear View

iSync Pro Rear View

Firmware Upgrade

From time-to-time, Key Digital® provides the option for you to update the Firmware that operates and controls your iSync HD [Pro] unit, such as to add a new or improved feature. These updates are optional, and you should only perform upgrades as provided and instructed by Key Digital®.

Should a Firmware Upgrade be available that you are interested in installing in your unit, please be sure to carefully and completely follow all of the steps described below.

In order to perform the Firmware Upgrade, be sure that your iSync HD [Pro] Switcher is set to "Program" operating mode:

The power supply MUST be disconnected (either from the back of your unit or from the wall outlet) to have a complete power shutdown - reset. Next, set the rear-panel Mode slide switch to "Program" mode. Only select "Program" mode when you need to perform a firmware upgrade of your iSync HD [Pro] Switcher unit, as provided and instructed by Key Digital®.

For proper operation of your unit to perform the Firmware Upgrade, physically disconnect the power to your unit before setting the rear-panel Mode slide switch to "Program" mode

- Disconnect the external power supply from the wall outlet and from the back of your iSync unit.
- Then set the Mode switch to the "Program" mode to perform the Firmware upgrade.

Check our web site at **www.keydigital.com** for any firmware updates. Be sure to carefully and completely follow all of the steps in the firmware upgrade instructions on our web site if there is a firmware upgrade for your iSync HD [Pro] unit that you are interested to install.

A Firmware Upgrade is performed by downloading the Firmware Upgrade files from the Key Digital® web site, to your laptop or personal computer. You will be instructed to connect the RS-232 cable, provided with your iSync HD [Pro] unit, between the communications port of your computer, and the RS-232C input on the iSync HD [Pro] unit. You will need to use your iSync HD [Pro] IR Remote Control, and access the **UPGRADE** command in the **SET-UP** Menu. Detailed instructions for executing the Firmware Upgrade instructions are available on our web site. **If you have any questions or encounter any problems while performing a Firmware Upgrade, please contact Key Digital® Technical Support.**

CAUTION: You MUST use the Firmware Upgrade cable provided with your iSync HD [Pro]

When performing a Firmware Upgrade, you **MUST** use the Firmware Upgrade Cable **PROVIDED WITH YOUR iSync HD [Pro] AT TIME OF PURCHASE** and carefully follow each step of the instructions for Firmware Upgrade of your iSync HD [Pro] unit, as provided on our web site at **www.keydigital.com**. Failure to follow these instructions may lead to the inoperability of your iSync HD [Pro] unit.

Note that once you perform a Firmware Upgrade on your iSync HD [Pro] unit, some of the information in this User Operating Manual may be obsolete.

Firmware Upgrade

Please review all steps first, before proceeding to upgrade your Unit.

STEP	FIRMWARE UPGRADE PROCEDURE
1	Be sure power is disconnected to your iSync HD [Pro] unit. The power supply MUST be disconnected (either from the back of your unit or from the wall outlet) to have a complete power shutdown - reset.
2	With power disconnected, set the rear-panel Mode slide switch to "Program" mode. Do NOT apply power yet to your unit.
3	Check our web site at www.keydigital.com for the latest firmware update ZIP file. Download and unzip the firmware ZIP file to any directory on your PC. All of the unzipped files that are created MUST be located in same directory on your PC.
4	Make sure that no devices are using the COM1 serial port on your PC.
5	Connect an RS-232 cable to the COM1 serial port on your PC, and the other end to the RS-232 port on the rear panel of the iSync HD [Pro] unit.
6	Turn power ON to your iSync HD [Pro] unit. The power supply MUST be reconnected to your unit first; THEN push the ON button at the front-panel of your unit.
7	Double-click the 'isynchd.bat' file. The command mode window should pop up. Monitor this pop-up window to see that the Firmware Upgrade is going well.
8	If an error occurs, check your RS-232 connection and repeat all of the above steps.
9	When the download is complete, turn the power OFF to your iSync HD [Pro] unit using the front-panel On/Off pushbutton, and then disconnect the RS-232 cable between the unit and your PC.
10	Again, be sure power is disconnected to your iSync HD [Pro] unit. The power supply MUST be disconnected (either from the back of your unit or from the wall outlet) to have a complete power shutdown - reset.
11	With the power disconnected, set the rear-panel Mode slide switch to "Normal" mode.
12	Turn power ON to your iSync HD [Pro] unit. The power supply MUST be reconnected to your unit first; THEN push the ON button at the front-panel of your unit.
13	The Firmware Upgrade is complete, and your iSync HD [Pro] is ready for operation.

List of RS232C Commands for iSync HD [Pro]

Provided below is a list of RS-232 Commands that allow you to control your iSync HD [Pro] Video Processor and Video/Audio Switcher unit operating at a baud rate of 19,200. Comment: To input a direct number, there must be a blank space between operator and operand. Example: CTI -10[enter] or CTI 10[enter]

Main Menu	Sub Menu	Default	RS232 Command	Function Desciption
1. Input Video	1. HDMI1	HDMI1	IV1	Select HDMI input1
	2. HDMI2		IV2	Select HDMI input2
	3. Component1		IV3	Select Component input1 (Y/Pb/Pr)
	4. Component2		IV4	Select Component input2 (Y/Pb/Pr)
	5. Component3		IV5	Select Component input3 (Y/Pb/Pr)
	6. Composite1		IV6	Select Composite input1 (CVBS)
	7. Composite2		IV7	Select Composite input2 (CVBS)
	8. Composite3		IV8	Select Composite input3 (CVBS)
	9. S-Video1		IV9	Select S-Video input1 (S-VIDEO)
	10. S-Video2		IVA	Select S-Video input2 (S-VIDEO)
2. Pic. Contrast	-50 ~ 50	0	CTU / CTD / CTI [#]	Up / Down / Direct contrast number enter
3. Pic. Brightness	-50 ~ 50	0	BTU / BTD / BTI [#]	Up / Down / Direct brightness number enter
4. Pic. Saturation	-50 ~ 50	0	SAU / SAD / SAI [#]	Up / Down / Direct saturation number enter
5. Pic. Tint	-50 ~ 50	0	TTU / TTD / TTI [#]	Up / Down / Direct tint number enter
6. Pic. Sharpness	-50 ~ 50	0	SHU / SHD / SHI [#]	Up / Down / Direct sharpness number enter
7. Pic. Aspect	1. Full Screen	Full Screen	AP1	Full Screen
	2. Letter Box		AP2	Letter Box
	3. Pillar Box		AP3	Pillar Box
	4. H-Zoom		AP4	H-Zoom
	5. V-Zoom		AP5	V-Zoom
	6. H-V-Zoom		AP6	H-V-Zoom
8. Pic. PAL Film	On / Off	Off	PON / POF	PAL Film On / Off
9. Pic. Default	Yes / No			
10. Scr. H Position	-20 ~ 20	0	HPU / HPD / HPI [#]	Up / Down / Direct H. position number enter
11. Scr. V Position	-20 ~ 20	0	VPU / VPD / VPI [#]	Up / Down / Direct V. position number enter
12. Scr. H Size	-20 ~ 20	0	HZU / HZD / HZI [#]	Up / Down / Direct H. size number enter
13. Scr. V Size	-20 ~ 20	0	VZU / VZD / VZI [#]	Up / Down / Direct V. size number enter
14. Scr. H Offset	-20 ~ 20[0~20]	0	HOU / HOD / HOI [#]	Up / Down / Direct V. offset number enter
15. Scr. V Offset	-20 ~ 20[0~20]	0	VOU / VOD / VOI [#]	Up / Down / Direct V. offset number enter
16. Scr. Default	Yes / No			
17. A/V Set HDMI1	(Input Audio Source)	None	AV1 [#]	Associate HDMI1 with audio input (# : 1h ~ Ch)
18. A/V Set HDMI2	(Input Audio Source)	None	AV2 [#]	Associate HDMI2 with audio input (# : 1h ~ Ch)
19. A/V Set Component1	(Input Audio Source)	None	AV3 [#]	Associate Component1 with audio input (# : 1h ~ Bh)
20. A/V Set Component2	(Input Audio Source)	None	AV4 [#]	Associate Component2 with audio input (# : 1h ~ Bh)
21. A/V Set Component2	(Input Audio Source)	None	AV5 [#]	Associate Component3 with audio input (# : 1h ~ Bh)
22. A/V Set Composite1	(Input Audio Source)	None	AV6 [#]	Associate Composite1 with audio input (# : 1h ~ Bh)
23. A/V Set Composite2	(Input Audio Source)	None	AV7 [#]	Associate Composite2 with audio input (# : 1h ~ Bh)
24. A/V Set Composite3	(Input Audio Source)	None	AV8 [#]	Associate Composite3 with audio input (# : 1h ~ Bh)
25. A/V Set S-Video1	(Input Audio Source)	None	AV9 [#]	Associate S-Video1 with audio input (# : 1h ~ Bh)
26. A/V Set S-Video2	(Input Audio Source)	None	AVA [#]	Associate S-Video2 with audio input (# : 1h ~ Bh)
27. A/V Set Default	Yes / No			
28. Out. Resolution	1920X1080P(60Hz/50Hz)	1280X720P(60Hz/50Hz)	OR1	Set output resolution by 1920x1080p(60Hz/50Hz)
	1920X1080I(60Hz/50Hz)		OR2	Set output resolution by 1920x1080i(60Hz/50Hz)
	1400X1050P(60Hz/50Hz)		OR3	Set output resolution by 1400x1050p(60Hz/50Hz)
	1280X768P(60Hz/50Hz)		OR4	Set output resolution by 1280x768p(60Hz/50Hz)
	1280X720P(60Hz/50Hz)		OR5	Set output resolution by 1280x720p(60Hz/50Hz)
	1366X768P(60Hz/50Hz)		OR6	Set output resolution by 1366x768p(60Hz/50Hz)
	1920X540P(60Hz/50Hz)		OR7	Set output resolution by 1920x540p(60Hz/50Hz)
	720X480P(60Hz)		OR8	Set output resolution by 720x480p(60Hz)
	720X480I(60Hz)		OR9	Set output resolution by 720x480i(60Hz)
	720X576P(50Hz)		ORA	Set output resolution by 720x576p(50Hz)
	720X576I(50Hz)		ORB	Set output resolution by 720x576p(50Hz)
	640X480P(60Hz)		ORC	Set output resolution by 640x480p(60Hz)
				(Note: output resolution 1920X1080SP(24Hz) is available only for input resolution 1920X1080SP(24Hz))
29. Out. Resol. Default	Yes / No			

List of RS232C Commands for iSync HD [Pro]

Main Menu	Sub Menu	Default	RS232 Command	Function Desciption
30. HDMI In. CSC	YPbPr	Auto	IC1	Set HDMI input color space by YPbPr
	RGB		IC2	Set HDMI input color space by RGB
	Auto		IC3	Set HDMI input color space by auto[default]
31. HDMI Out. CSC	YCbCr	Auto	OC1	Set HDMI output color space by YCbCr
	RGB		OC2	Set HDMI output color space by RGB
	Auto		OC3	Set HDMI output color space by auto[default]
32. HDMI Out. Setup	HDMI	HDMI	OS1	Set HDMI output by HDMI mode
	DVI		OS2	Set HDMI output by DVI mode
33. Analog Out. Setup	YCbCr	YCbCr	AS1	Set analog output by YCbCr with embedded sync
	RGB HV		AS2	Set analog output by RGB with HV sync
34. In. Test Pattern	Normal Display	Normal Display	IP1	Set HDMI output by DVI mode
	H Ramp		IP2	Set HDMI output by DVI mode
	Color Bars		IP3	Set HDMI output by DVI mode
35. Out. Test Pattern	Normal Display	Normal Display	OP1	Normal display (Normal operation)
	H Ramp		OP2	Display horizontal ramp window
	Color Bars		OP3	Display color bar window
	Cross Hatch		OP4	Display cross hatch window
	Gray Scale		OP5	Display gray scale window
	White Window		OP6	Display white window
	Wide H Ramp		OP7	Display wide horizontal ramp window
	Wide V Ramp		OP8	Display wide vertical ramp window
36. Factory Default	Yes / No		FDF	Set all properties by Factory Default Value
37. Hot Keys	STILL	Off	STO / STF	STO: Still On, STF: Still Off
	MUTE	Off	MUO / MUF	MUO: Mute On, MUF: Mute Off
38. Power On / Off	On / Off		PWO / PWF	PWO: Power On, PWF: Power Off

Function Scheme of A/V Association

Each input video source is associated with one input audio among all input audio sources

Input Video	[A/V Source]
17. A/V Set HDMI1	HDMI PCM
18. A/V Set HDMI2	Stereo 1
19. A/V Set Component1	Stereo 2
20. A/V Set Component2	Stereo 3
21. A/V Set Component3	Stereo 4
22. A/V Set Composite1	Coaxial 1
23. A/V Set Composite2	Coaxial 2
24. A/V Set Composite3	Coaxial 3
25. A/V Set S-Video1	Coaxial 4
26. A/V Set S-Video2	Optical 1
	Optical 2
	None

Input Video	[A/V Source]
17. A/V Set HDMI1	Stereo 1
18. A/V Set HDMI2	Stereo 2
19. A/V Set Component1	Stereo 3
20. A/V Set Component2	Stereo 4
21. A/V Set Component3	Coaxial 1
22. A/V Set Composite1	Coaxial 2
23. A/V Set Composite2	Coaxial 3
24. A/V Set Composite3	Coaxial 4
25. A/V Set S-Video1	Optical 1
26. A/V Set S-Video2	Optical 2
	None

RS-232

Technical Specifications

General

- Select any HDMI video input (2)
  - ⇛ To support DVI-D Video I/O, use Key Digital® HDMI to DVI-D adapters and cables
  - ⇛ Supports EDID and HDMI plug-and-play capability
  - ⇛ Supports HDCP copy protection
- Select any analog video input
  - ⇛ Separate analog video connectors for Component Video (YPbPr) (3), S-Video (2), Composite (CV) (3)
  - ⇛ NTSC and PAL formats are supported
- Select video output
  - ⇛ HDMI or Component (YPbPr) or RGB with separate (composite H/V Sync)
- Select any audio input and output
  - ⇛ Separate audio connectors for analog Left and Right audio pair and SPDIF digital audio (coaxial and optical)
- Process and scale any HDMI digital video or any analog video input to match the native reso lution of your display
  - ⇛ Uses world-renowned Key Digital® Clear Matrix Pro technology
  - ⇛ Supports all popular source formats and resolutions
- Easy to control and operate
  - ⇛ IR remote control with dedicated “Hot Buttons”
  - ⇛ RS-232 control

Video Input Formats Supported

- Supports the following popular input video formats
  - ⇛ 720 x 480i @ 60 Hz
  - ⇛ 720 x 480p @ 60 Hz
  - ⇛ 720 x 576i @ 50 Hz
  - ⇛ 720 x 576p @ 50 Hz
  - ⇛ 1280 x 720p @ 50 Hz & 60 Hz
  - ⇛ 1920 x 1080i @ 50 Hz & 60 Hz
  - ⇛ 1920 x 1080p @ 24Hz
- Accepts and automatically detects 60 Hz and 50 Hz input formats (the output frame rate will be the same as the input frame rate) and PAL analog on the S-Video and Composite Video inputs

Video Processing Functions

- **Picture quality calibration**
  - ⇛ Contrast, Brightness, Saturation, Tint (Hue), Sharpness (Edge Enhancement)
- **Screen quality calibration and aspect ratio**
  - ⇛ **Full screen, Pillarbox and Letterbox**
  - ⇛ **Horizontal and Vertical position:** Shifts the image on the screen, left and right and/or up or down
  - ⇛ **Horizontal and Vertical size:** Increases and/or decreases the size of the image on the screen vertically and horizontally
  - ⇛ **Horizontal and Vertical offset:** Adjusts the position of the input source, horizontally (left or right) or vertically (up or down); adjust carefully
  - ⇛ **Zoom** (Output Aspect Ratio Processing), including options to prevent monitor burn-in for Letter Box or Pillar Box images:
    - **Full screen**
    - **Horizontal Zoom In/Out:** This is a useful feature that allows the stretching (distortion) of the image projected to horizontally fill the screen, preventing “image burn-in” in scenarios where a 4:3 image has been up-converted to HDTV and presented in Pillarbox format in a16:9 window with black bars on either side of the image.
    - **Vertical Zoom In/Out:** This is a useful feature that allows the stretching (distortion) of the image to vertically fill the screen, preventing image “burn-in” in scenarios where the input is in Letterbox format. For instance, it is very common for a widescreen DVD movie to be presented in Letterbox and because the original movie may have been captured in 2.35:1 Cinemascope or some other Aspect Ratio that creates a small letterbox in a 16:9 window.
    - **Horizontal and Vertical Zoom In/Out:** This mode simultaneously stretches (distorts) the image in both the horizontal and vertical directions, using the same ratios as in the H-Zoom and V-Zoom, both of which individually, geometrically distort the image. Because the image is “Zoomed” (enlarged), there will be a slight loss (cropping) of the image, at the top and bottom of Pillarbox sources and at the left and right of Letterbox sources. There is also a slight processing of the image to scale-up the resolution.

Video Processing Functions (continued)

- Built-in test patterns aid in setting up your video system (all patterns are accessible via the IR Remote Control, the panel mount pushbutton controls as well as RS-232):
  - ⇒ Horizontal Ramp
  - ⇒ Color Bars
  - ⇒ Cross Hatch
  - ⇒ Gray Scale
  - ⇒ White Screen
  - ⇒ Wide Horizontal Ramp
  - ⇒ Wide Vertical Ramp

Status and Control

- Stores your custom settings for each HDMI and analog video input
- Easy to operate IR Remote Control
  - ⇒ Front panel IR sensor with lens, rear-panel IR sensor, and wired IR serial connector
- RS-232 Control
  - ⇒ Compatible with CRESTRON, AMX, ELAN, CONTROL4
- Firmware upgradeable

Mechanical

- No fan noise
- Rack mountable: 1U
- Product Size: 17 x 7.5 x 1.75 inches (excluding ears)
- Product Weight: 11 lbs. (excluding external power supply)
- Enclosure type: Metal
- Input power: External power supply included (6 Volt DC @ 5 Amps, 110-240 VAC, 50-60 Hz)

How to Contact Key Digital®

Repairs and Warranty Service

- Should your iSync HD [Pro] require warranty service, please contact Key Digital® to obtain a Returned Materials Authorization (RMA) number
- Please contact us at either:
  - ⇒ Phone: 1-914-667-9700
  - ⇒ E-mail: **tech@keydigital.com**

Technical Support

- For technical questions about using our products, please contact us at either:
  - ⇒ Phone: 1-914-667-9700 or Toll-free 1-888-258-2028
  - ⇒ E-mail: **tech@keydigital.com**

Customer Support

- For customer support questions about using our products, please contact us at either:
  - ⇒ Phone: 1-914-667-9700
  - ⇒ E-mail: **customersupport@keydigital.com**

Warranty

All Key Digital® products are built to high manufacturing standards and should provide years of trouble-free operation. They are backed by a limited two-year parts and labor warranty.